

To split a worksheet, use either of the following techniques:

- Click to select the cell below and/or to the right of where you want the split to appear, and then click the View ribbon's Split button. Select any cell in the column at the left of the current window to create side-by-side panes (also known as a vertical split). Select any cell in the top row to create a horizontal split, with one pane over another. If you choose the cell at the top left of the screen, Excel divides the window into four equal panes.
- Aim the mouse pointer at one of the two split boxes, which appear just above the vertical scrollbar and just to the right of the horizontal scrollbar, to create side-by-side panes (vertical split). When the mouse pointer changes to a double line with two arrows, click and drag in the direction of the worksheet to create a new pane. As you drag, the bar snaps into place at a row or column boundary. Release when you reach the right position.

To remove multiple panes and return to a single editing window, you can do any of the following: Click your View ribbon's Split button again, double-click the split bar, or click the bar and drag it off the worksheet window in any direction.

USING LINKS TO AUTOMATICALLY UPDATE OR CONSOLIDATE WORKSHEET DATA

Use links to share data between cells or ranges in one worksheet and another location in the same workbook or a different workbook. Just as a formula displays the results of a calculation, a link looks up data from another location and displays it in the active cell.

Links offer a powerful technique for consolidating data from different sources into one worksheet without requiring that you re-enter or copy data. For example, you might use separate sales-tracking worksheets for each month of the year, with a single year-to-date worksheet that consolidates the monthly results. A business manager can use separate worksheets to analyze budget information for each division within a company, creating links to a master worksheet that ties all the numbers together.

NOTE

You can use *links* (also known as external references) within formulas as well.

After you establish a link, data you enter in one location automatically appears in all linked locations. To create a link, follow these steps:

1. Open all the workbooks you plan to link.
2. In the source workbook (the one that contains the data you want to reuse), select the cell or range to be linked, and press Ctrl+C to copy it to the Clipboard.
3. Switch to the dependent workbook (the one in which you want to insert the link), and select the cell where you want to create the link.
4. Click the bottom half of your Home ribbon's Paste button and choose Paste Link.

→ Using hyperlinks provides yet another powerful option for linking your Excel worksheets; see “Working with Hyperlinks,” p. 98.

In general, you should avoid creating links between cells or ranges that are contained in separate workbooks. If you move or delete the workbook that contains the external reference, you break the link and damage the integrity of your data and formulas. Excel updates linked cells automatically if the worksheet that contains the link is open. If you change the data in the source workbook when the workbook that contains the link is closed, the links do not update automatically. When you reopen the workbook that contains the links, Excel will ask whether you want to update the links.

NEW To update or change the source of links manually, click your Data ribbon’s Edit Links button to display the Edit Links dialog box. All your links will appear in the dialog box showing their source workbook and whether that workbook is currently open. Click the Update Values button to update your workbook’s links.

RESTRICTING AND VALIDATING DATA ENTRY FOR A CELL OR RANGE

When designing a worksheet, you’ll occasionally want to restrict the type of data users can enter in a specific cell or range. Excel lets you define data-validation rules for cells and ranges to do exactly that. Examples of useful applications include the following:

- In a list of recent sales results formatted to show only month and date, restrict entry in specific column to only dates within the last month. This technique prevents users from inadvertently entering a date in the wrong month or year, or in the future.
- On a budget worksheet, require that the user enter a department name and restrict allowed entries to a specific list. You can add a drop-down arrow to a cell with this type of restriction so users can pick from a list.
- For purchase orders, check the amount a user enters against his or her authorized spending limit—say, \$500. If the amount is over the limit, display a message that directs them to talk to a supervisor or re-enter the amount.
- Ask a user to enter a description in a form; to keep data to a manageable length, restrict the total number of characters the user can enter and display a warning message if the description exceeds that length.
- On an invoice form, allow a salesperson to enter an optional discount for good customers, but only if the amount before sales tax is over \$100. Compare the entry in the Discount field with a formula that calculates the total purchases to validate the entry.

DEFINING DATA-VALIDATION RULES

Each *data-validation* rule has three components: the criteria that define a valid entry; an optional message you can display to users when they select the cell that contains the rule; and an error message that appears when users enter invalid data. To begin creating a data-validation rule, first select the cell or range for which you want to restrict data entry, and